

# Central<sup>TM</sup> Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA  
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N3053  
2N3053A

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3053, 2N3053A types are Silicon NPN Epitaxial Planar Transistors designed for general purpose applications.

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

	SYMBOL	2N3053	2N3053A	UNITS
Collector-Base Voltage	V <sub>CB0</sub>	60	80	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	60	V
Emitter-Base Voltage	V <sub>EBO</sub>		5.0	V
Collector Current	I <sub>C</sub>		700	mA
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>		5.0	W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>		-65 to +200	°C
Thermal Resistance	θ <sub>JC</sub>		35	°C/W

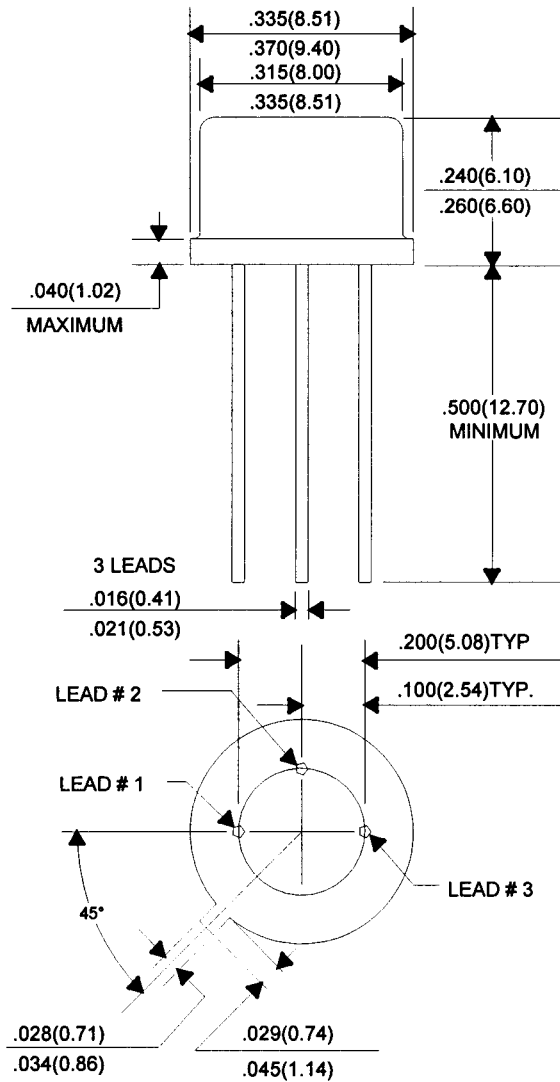
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3053		2N3053A		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CEV</sub>	V <sub>CE</sub> =30V, V <sub>EB(off)</sub> =1.5V		250			nA
I <sub>CEV</sub>	V <sub>CE</sub> =60V, V <sub>EB(off)</sub> =1.5V				250	nA
I <sub>EBO</sub>	V <sub>EB</sub> =4.0V		250		250	nA
BV <sub>CB0</sub>	I <sub>C</sub> =100μA	60		80		V
BV <sub>CER</sub>	I <sub>C</sub> =100mA, R <sub>BE</sub> =10Ω	50		70		V
BV <sub>CEO</sub>	I <sub>C</sub> =100μA	40		60		V
BV <sub>EBO</sub>	I <sub>E</sub> =100μA	5.0		5.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		1.4		0.3	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		1.7	0.6	1.0	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =2.5V, I <sub>C</sub> =150mA		1.7		1.0	V
h <sub>FE</sub>	V <sub>CE</sub> =2.5V, I <sub>C</sub> =150mA	25		25		
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =150mA	50	250	50	250	
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA, f=20MHz	100		100		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=140kHz		15		15	pF
C <sub>ib</sub>	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=140kHz		80		80	pF

(See Reverse Side)

# JEDEC TO-39 CASE - MECHANICAL OUTLINE

All Dimensions in Inches (mm).



Lead Code:

- 1) Emitter
- 2) Base
- 3) Collector

**Central**<sup>TM</sup>  
**Semiconductor Corp.**